

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
13 January 2005 (13.01.2005)

PCT

(10) International Publication Number  
**WO 2005/003328 A1**

(51) International Patent Classification<sup>7</sup>: C12N 1/20,  
A61K 35/74, A01N 63/02

(21) International Application Number:  
PCT/AU2004/000914

(22) International Filing Date: 7 July 2004 (07.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/485,241 7 July 2003 (07.07.2003) US  
60/504,703 22 September 2003 (22.09.2003) US

(71) Applicant (for all designated States except US):  
**FLINDERS TECHNOLOGIES PTY. LTD.** [AU/AU];  
Bedford Park, South Australia 5042 (AU).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **FRANCO, Christopher, Milton, Mathew** [AU/AU]; 21 John Street, Payneham, South Australia 5070 (AU). **COOMBS, Justin, Taylor** [AU/AU]; 2/90 High Street, Glen Iris, Victoria 3146 (AU).

(74) Agents: **OBRANOVICH, Tania, D.** et al.; Davies Collison Cave, 1 Nicholson Street, Melbourne, Victoria 3000 (AU).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/003328 A1

(54) Title: A METHOD AND AGENTS FOR IMPROVING PLANT PRODUCTIVITY INVOLVING ENDOPHYTIC ACTINOMYCETES AND METABOLITES THEREOF

(57) Abstract: The present invention relates to a method for improving plant productivity, and in particular crop yields, via the introduction of an endophytic microorganism to the subject plant. More particularly, the present invention is directed to a method for improving cereal crop productivity via the introduction of an endophytic actinomycete to the subject crop. The method of the present invention facilitates the improvement of crop productivity, such as increasing germination, by, *inter alia*, providing the subject plant with disease bio-control capabilities and up-regulating plant growth promoting activities. The present invention is also directed to novel endophytic microorganisms and uses thereof.

BEST AVAILABLE COPY